

## MATH F113X: Introduction to Hamiltonian Circuits and Paths

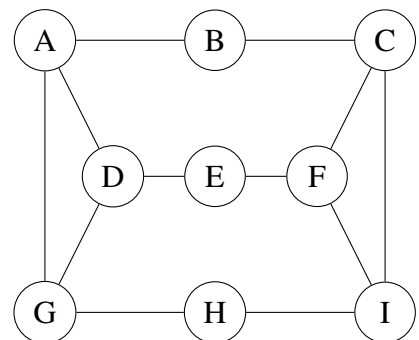
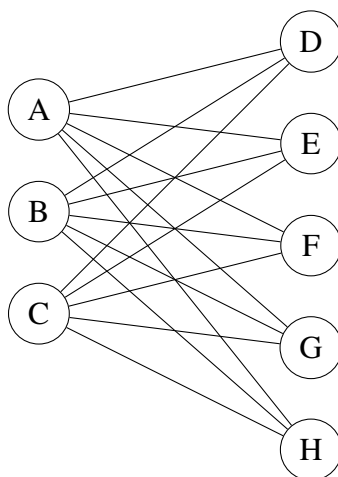
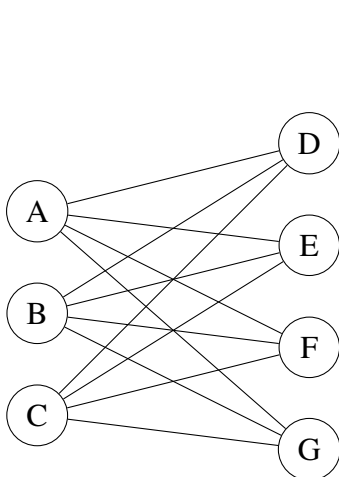
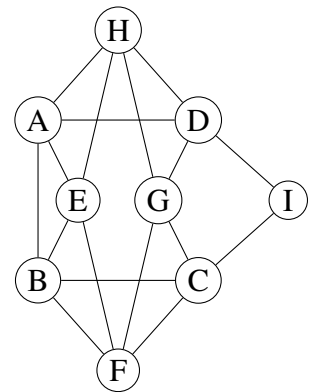
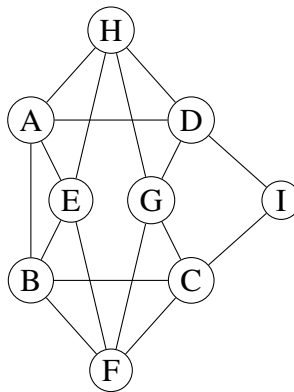
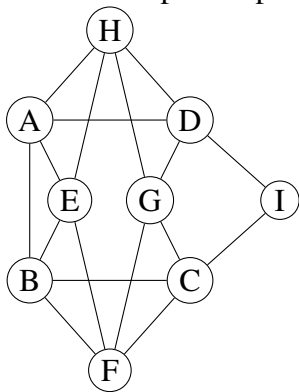
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**Terminology:** Hamiltonian Path, Hamiltonian Circuit

1. A **Hamiltonian circuit** (sometimes called Hamiltonian Cycle) is

2. A **Hamiltonian path** is

3. Some Example Graphs

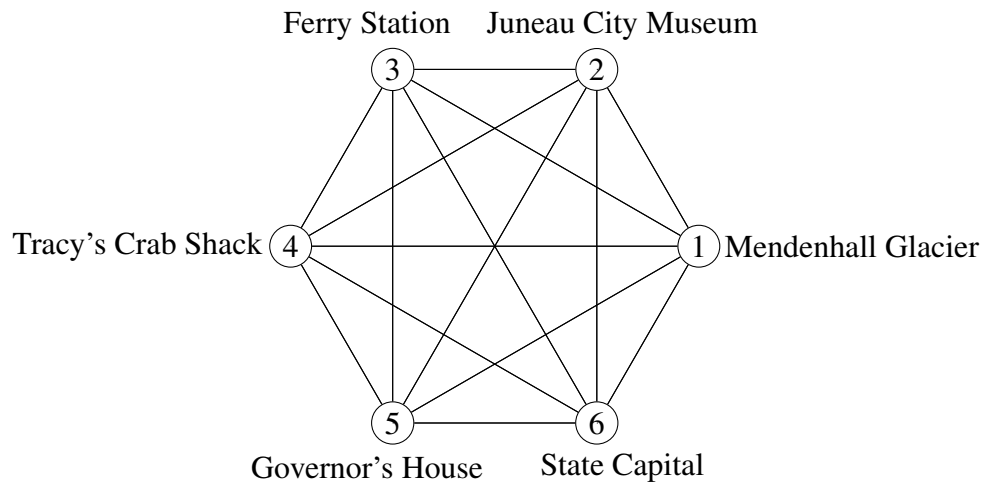


4. Do any of the above graphs have an **Euler** circuit?

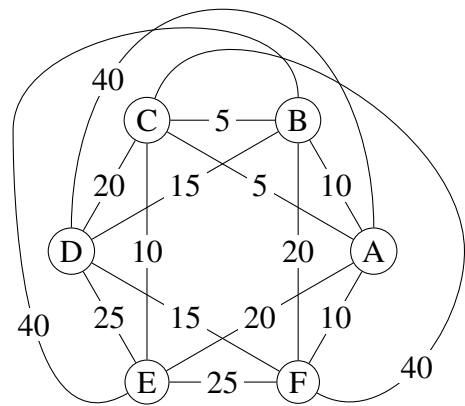
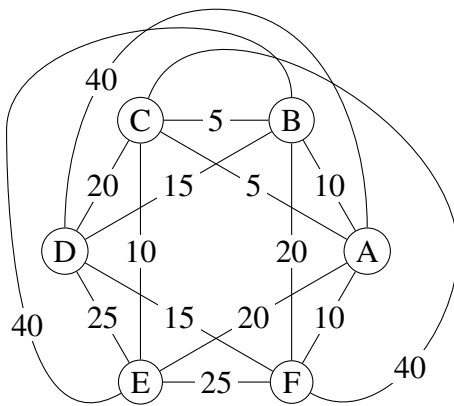
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5. What would a Hamiltonian circuit in the graph below represent?



6. Why might you want to find a Hamiltonian circuit of smallest weight? How might you do that?



7. Comments on a concrete application and counting.